

**LANDFILL EXCAVATION MONITORING
WORK PLAN**

**BULLARD WASH OUTFALL PROJECT
PHOENIX GOODYEAR AIRPORT
GOODYEAR, ARIZONA**

WT JOB NO. 2189JK022



**Western
Technologies
Inc.**

The Quality People
Since 1955

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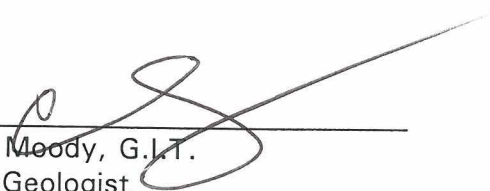
PHOENIX – ARIZONA

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Prepared for:

**FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY
2801 WEST DURANGO ST.
PHOENIX, ARIZONA**

February 24, 1999


Chris Moody, G.I.T.
Staff Geologist


David Regonini
Director, Environmental Services

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1.0 INTRODUCTION

1.1 Project Authorization

This work plan summarizes the planned monitoring during excavation activities within a landfill area in conjunction with the Bullard Wash Outfall Project at the Phoenix, Goodyear Airport, Goodyear, Arizona.

1.2 Project Objective

The objective of this project is to observe and monitor the excavated materials for evidence of regulated materials, or containers holding regulated materials, and to assist the FCDMC with the on-site management and recovery of these materials.

1.3 Plan Overview

A summary of the contents of this plan follows:

- The methods and procedures to be used for monitoring and screening materials during the excavation activities.
- Health and safety procedures for oversight activities, and the handling and evaluation of suspect regulated materials.
- Lines of reporting between WT, FCDMC, and FNF for the purpose of conveying results and observations, and for work stoppage, if necessary.
- Contingency actions in the event of a release, including contacts with an emergency response contractor for special conditions, and emergency medical assistance.
- Examples of typical response actions for contemplated scenarios, and,
- Documentation of the removal efforts and subsequent field monitoring data.



2.0 SITE INFORMATION

2.1 Site Location

The Site is located on the southwest portion of the Phoenix Goodyear Airport in Goodyear, Arizona. Access to the Site is obtained through gate number 8 at the airport.

2.2 Site Conditions

The Site is currently an undeveloped portion of the airport, and consists of a topographically elevated area, ranging up to 15 feet high, which is approximately 600 feet by 300 feet in areal extent. The maximum depth of the buried waste was reported to be approximately 8 to 9 feet below ground surface (bgs).

Based on past site assessment activities, waste material observed in the area included concrete, rocks, soil, plastic sheeting, wood, shingles, scrap metal, empty drums, tires, vegetative debris, a metal waste oil tank, a concrete oil bowser, fiberglass insulation, and a piece of transite (asbestos-containing) piping. WT anticipates that the potential exists for finding the waste materials identified above during subsequent removal activities.

2.3 Project Participants

The project initiator is the FCDMC. Ms. Theresa Hoff is the FCDMC's project manager, and Mr. Mike Towers is the construction manager for the project.

The removal contractor for the project is FNF Construction, Inc (FNF). Mr. Lee Hulbert is the construction contractor for FNF.

WT will provide consulting/oversight services. WT's project manager is Mr. David Regonini, and WT's project engineer is Mr. Randolph Marwig, P.E. WT's field representative will be Mr. Chris Moody, G.I.T. Alternative field staff will consist of Mssrs. Don Fulton, RPIH, or Frank Dickerson, G.I.T.

If regulated materials are encountered, and work stoppage must occur to evaluate the materials, WT will contact the FCDMC's on-site manager and provide direction to the FCDMC regarding the isolation, storage, and evaluation of these materials. The on-site manager from the FCDMC will then provide direction to FNF regarding the continuation of excavation activities.



3.0 FIELD WORK PRACTICES

3.1 Site Control and Access

The Site is currently fenced. The FCDMC will monitor ingress and egress during project operations, and all WT personnel will check in and out with the FCDMC in the construction trailer at the site. In the event that the construction trailer is unmanned, WT will contact the FCDMC construction manager, Mr. Mike Towers on his cellular phone at 980-6721, or the FNF project manager, Mr. Lee Hulbert on his cellular phone at 989-3119, to arrange for entrance onto the site.

3.2 Dust Control

Provisions for dust control will be the responsibility of FNF.

3.3 Excavation Activities

All soil and solid waste materials removed during excavation activities at the site will be screened through a 3-inch screen. Soil not exhibiting staining or odor will be removed and stored on site for use as backfill. All screened materials will be stockpiled and evaluated for disposal as solid waste in an approved solid waste landfill. The screening, storage, disposal, and re-use activities are the responsibility of FNF Construction.

3.4 Monitoring Activities

WT will place one field level professional in the field during all excavation activities within the suspected landfill area. WT's representative will monitor the excavation activities at the working face. The excavated materials will be visually monitored and periodically screened using field instrumentation. Field screening activities will include a photo-ionization detector (PID) for volatile organics, an ultra-violet light source for petroleum, "Chlor-In-Soil" test kits for polychlorinated biphenyls, and a 4-gas meter for explosivity, hydrocarbon range compounds, hydrogen sulfide, and carbon monoxide. The WT representative will take periodic measurements at the excavation face, and of suspect regulated waste materials, significantly stained soil, or other media. All field screening activities will be recorded onto a screening log which will subdivide the screening results into measurements made in separate locations and of assorted media. Appendix A contains a copy of the Field Screening Log to be used during the project.



3.5 Regulated Materials in Excavation

If regulated materials are encountered in the excavation or in the physically screened material, WT will evaluate the following three conditions: 1) Are additional materials present in the vicinity of the excavation; 2) has a release of the material occurred into the excavation area; and 3) do resulting job site conditions warrant a work stoppage.

The most probable reasons for stopping the excavation work are: 1) encountering additional waste oil tanks or oil bowsters; 2) the discovery of closed drums or containers with unknown or leaking contents, and 3) the presence of contaminated media which could cause a potential worker exposure condition.

If excavation activities are stopped, WT will take the following steps:

- 1) Determine if the containers hold liquid, sludge or solid materials.
- 2) Determine if the containers have released contents to the surrounding soil.
- 3) Perform air monitoring of ambient air in the work zones. If the air monitoring of the spilled materials indicate that the levels are above action levels, WT will report these results to the FCDMC construction manager. An alternative work area will be identified by the FCDMC construction manager.
- 4) If the containers hold materials, attempt to remove the containers without spilling their contents. The removal activities will need to be conducted by an operator who has received a 40-hour hazardous waste site operations training course which meets Occupational Safety and Health Administration (OSHA) requirements. WT will direct the construction of a temporary container staging and holding area that will consist of a berm and double-liner of polyethylene sheeting. The berms will be constructed with existing native soil by the available mechanically operated excavation equipment.

The WT field representative will decide how to overpack and control the retrieved container. Soil or other contaminated debris found with the drums or containers will also be segregated from the fill material. Recovered containers will be labelled to identify them based on the debris area, and the location within the cut.

- 5) The WT field representative will provide a physical description of the waste, including the color and viscosity. The FCDMC construction manager will approve sampling activities prior to initiation. The WT field representative will communicate with the WT project manager to decide which analytical chemistry test procedures



to use. The FCDMC construction manager or project manager will approve the chemical testing prior to submitting the samples to the analytical chemistry laboratory. The purpose of the resulting data will be to assist the FCDMC with the off-site disposal of the materials.

- 6) WT will evaluate the level of response necessary to control the excavated material. If necessary, WT will recommend to the FCDMC to contact Environmental Response Inc. of Tempe, Arizona (ERI). The phone number for ERI is 967-2802. ERI is an approved contractor for waste removal activities for the FCDMC.

A flow chart outlining the procedures WT will follow when containers are encountered within the excavation is presented in Appendix B of this document.

3.6 Action Levels

If necessary, organic vapor levels will be measured outside the work area, upwind from the site to measure the background readings. The action level is the level for which recorded measurements, using an OVM meter, results in a reading sufficient to justify upgrading to Level C protection. Appendix C contains a summary of the action levels and physical parameters of contaminants anticipated to be encountered during the removal action.

The action level to upgrade to Level C shall be 10 OVM units above background level taken continuously for 15 minutes within the breathing zone. The Project Manager will be notified of the change of site conditions following the readings. OVM meter readings greater than 25 units, for a continual period of 15 minutes or longer within the breathing zone, shall cause WT to recommend cessation of the work activities. Site activities shall not resume until a review of the situation has been conducted by the project manager.

3.7 Personal Protective Equipment

Personal protective equipment (PPE) may be required during the course of excavation activities. Selection will be based primarily on hazardous material data and work task requirements. Based upon the hazard analysis information, the initial level of protection used for all activities shall be **Level D**. This level of protection shall be continuously re-evaluated based on field conditions. All asbestos sampling activities where friable materials are encountered shall be performed using **Level C**. This site plan does not address conditions requiring the use of PPE beyond Level C. In the event Level B conditions are warranted, site activities shall be re-evaluated by the project manager, and an emergency response contractor will be required to respond.



3.7.1 Level D Personal Protective Equipment

Level D protection will be used when:

- The atmosphere contains no known hazard.
- Work functions preclude splashes, immersion, or the potential for unexpected inhalation or contact with hazardous levels of any chemical.

Personnel working at the Bullard Wash Landfill Excavation Site shall wear as a minimum:

- Dedicated work uniforms (e.g.--coveralls),
- Boots, leather or chemical resistance, steel toe,
- Hard hat,
- Safety glasses, face shield or goggles, as mandated by project manager,
- Gloves, chemical resistant (nitrile), may be mandated only when handling contaminated soils.

3.7.2 Level C Personal Protective Equipment

Level C protection should be used when:

- The atmospheric contaminants, liquid splashes, or other direct contact will not adversely affect or be absorbed through any exposed skin.
- The types of air contaminants have been identified, concentrations measured, and an air-purifying respirator is available that can remove the contaminants.
- All criteria for the use of air-purifying respirators are met.

When air monitoring information dictates that a particular site be upgraded to Level C protection, personnel shall wear as a minimum:

- Half-mask air purifying respirator, (MSHA-NIOSH) approved, fitted with an organic vapor/HEPA cartridge combination filter,
- Hooded chemical resistant clothing (e.g.,--disposable chemical suits),



- Boots, rubber, or chemical resistance, steel toe,
- Hard hat,
- Safety glasses, face shield or goggles,
- Gloves, chemical resistance (nitrile), during the handling of contaminated soils.

3.8 Asbestos Containing Materials

WT will visually examine excavated materials to assess the potential for the presence of suspect asbestos containing materials (ACM). WT will take the following actions in response to the presence of suspect ACM:

- 1) Assess the friability of the material and the potential for the excavation activities to cause a disturbance which may result in a fiber release.
- 2) If materials can be removed intact without disturbance, then mechanical equipment will be used to remove and segregate the suspect ACM from the general excavation area. Suspect ACM will be relocated to a staging area and placed on plastic sheeting. The material will be covered with plastic sheeting once the relocation activity has been completed and general excavation has commenced.
- 3) If materials cannot be removed intact with mechanical means, then these materials will be wetted to suppress fiber release during their removal. Equipment operators and workers handling the suspect ACM will require training which complies with OSHA 8-hour requirements for asbestos workers.
- 4) WT will sample the suspect ACM for microscopic analysis. These results will be used to decide whether or not the material is considered asbestos containing debris, and to assist the FCDMC and/or FNF with the selection of a waste disposal site.
- 5) Materials positively identified as containing asbestos will be double-bagged in 6-mil polyethylene sheets or bags with asbestos caution labels.

3.9 Daily Field Correspondence

WT will document the field work through written field observations and photographs. WT will complete daily field logs summarizing observations and measurements. A copy of these logs will be given to the FCDMC project manager or on-site representative. Daily field summaries will be provided to the FCDMC project manager by the WT field representative.



*Flood Control District of Maricopa County
Bullard Wash Outfall-Work Plan
WT Ref. No. 2189JK022*

These summaries will identify the total number of drums and containers secured at the Site, and their identification codes; the approximate time spent securing potentially regulated materials, and; a list of collected samples.



**BULLARD WASH OUTFALL PROJECT
EMERGENCY AND PROJECT CONTACTS**

Emergency Contacts

Police Department	911
Fire Department	911
Paramedic/Rescue	911
Hospital Emergency	911
West Valley Emergency Center	245-6700

Project Contacts

WT CONTACTS:

David Regonini, Project Manager	437-3737 (WT)	980-4186 (mobile)
Randolph Marwig, P.E., Project Engineer	437-3737 (WT)	616-9858 (mobile)
Chris Moody, G.I.T., Field Geologist	437-3737 (WT)	289-0757 (beeper)

FCDMC CONTACTS:

Theresa Hoff, Project Manager	506-8127 (FCDMC)	506-8561 (fax)
Mike Towers, Construction Manager	925-5836 (jobsite)	980-6721 (mobile)

FNF CONSTRUCTION CONTACT:

Lee Hulbert, Project Manager-FNF	925-5836 (jobsite)	989-3119 (mobile)
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ENVIRONMENTAL RESPONSE CONTACT:

Greg Laney, Project Manager-ERI	967-2802 (ERI)
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APPENDIX A



Bullard Wash Outfall Project

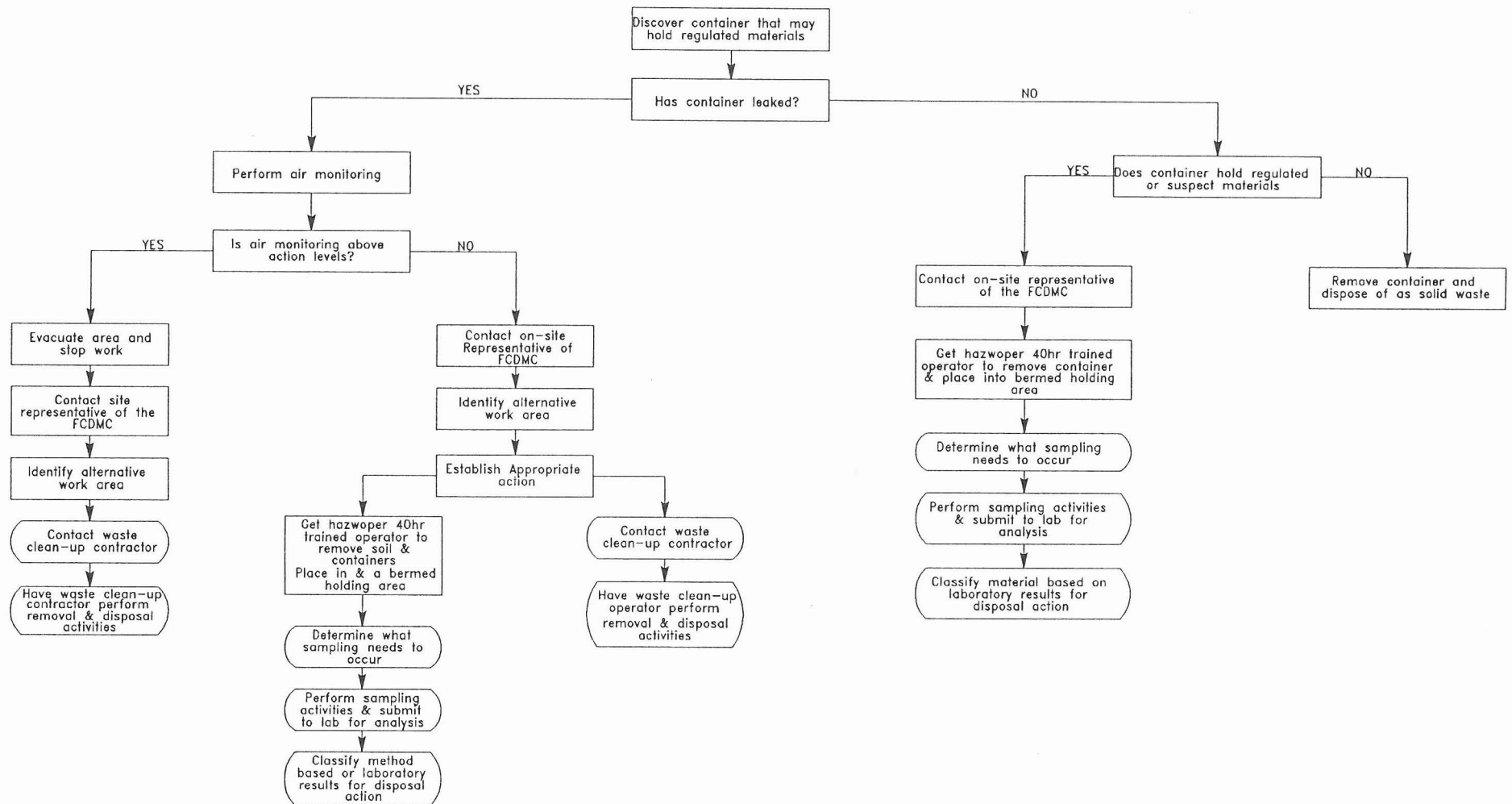
Bullard Wash

APPENDIX B



CHART 1

PROCEDURAL FLOW DIAGRAM
BULLARD WEST OUTFALL PROJECT
LANDFILL EXCAVATION MONITORING
PHOENIX - GOODYEAR AIRPORT
GOODYEAR, ARIZONA



LEGEND

Contract work

Change order work

Reviewed:	C. Moody	Review Date:	02/18/99
Client:	Flood Control District of Maricopa County	Prepared:	L. Fuentes
Western Technologies Inc.			
Job No.	2189JK022	Figure:	2

APPENDIX C

CONTAMINANT PHYSICAL PROPERTIES

<i>Contaminant</i>	<i>OSHA PELs (ppm) (STEL)</i>	<i>Vapor Pressure (mm Hg)</i>	<i>Water Solubility (%)</i>	<i>Flash Point (°F)</i>	<i>Lower Explosive Limit (% in air)</i>	<i>Upper Explosive Limit (% in air)</i>	<i>Ionization Potential (in Electron Volts - eV)</i>
<i>Asbestos</i>	<i>0.1 (f/cc¹)</i>	<i>0</i>	<i>Insoluble</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
<i>Benzene</i>	<i>50 (10 min.)</i>	<i>75</i>	<i>0.07</i>	<i>12</i>	<i>1.2</i>	<i>7.8</i>	<i>9.24</i>
<i>Ethylbenzene</i>	<i>125</i>	<i>7</i>	<i>0.01</i>	<i>55</i>	<i>0.8</i>	<i>6.7</i>	<i>8.76</i>
<i>Lead</i>	<i>0.05 (8 hr.)</i>	<i>0.0</i>	<i>Insoluble</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
<i>Methyl-tert butyl ether (MTBE)</i>	<i>40 (8 hr. TWA)</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
<i>Methane</i>	<i>(< 18% O₂)</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
<i>Petroleum Naphtha</i>	<i>444</i>	<i>40</i>	<i>Insoluble</i>	<i>-40 to -86</i>	<i>1.1</i>	<i>5.9</i>	<i>N/A</i>
<i>Toluene</i>	<i>300</i>	<i>21</i>	<i>0.07 (74°F)</i>	<i>40</i>	<i>1.1</i>	<i>7.1</i>	<i>8.82</i>
<i>Xylene</i>	<i>100 (8 hr.)</i>	<i>7-9</i>	<i>0.02</i>	<i>81-90</i>	<i>0.9-1.1</i>	<i>6.7-7.0</i>	<i>8.44-8.56</i>

1 - fibers per cubic centimeter of air.

